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ORIGINAL LECTURES.

CLINICAL LECTURES  
ON FRACTURES.

*Delivered in Bellevue Hospital, New York,*

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FRACTURES OF THE SHAFT OF THE FEMUR  
IN CHILDREN.

GENTLEMEN,—When I was speaking to you upon the subject of fractures of the femur in the adult, I should have liked to pass directly on to the consideration of the same class of fractures in children; but, as there was no case of such injury in the hospital at the time, I thought it best to postpone my remarks upon the subject until I should have a patient to show you for the purpose of illustrating the treatment. I have now waited a considerable time, however, and, unfortunately for our purpose, there is still no child with a broken thigh in our wards; so I have concluded to present the subject to you to-day, and, by the promise of a new doll, have prevailed upon a very nice little girl, who is suffering from another affection, to give her consent to have the method of treatment demonstrated upon her person. As I intimated in my first lecture, I shall have to speak of certain peculiarities which characterize fractures of the shaft of the femur in children, and which make them different from the same kind of fracture in the adult.

In the first place, then, such a fracture in the child is always transverse, or nearly transverse, while in the adult, you will remember, it is always oblique, and not infrequently to an extremely marked degree. Secondly, it is not only transverse, but it is of a denticulated character. It affords a good example of what is known as the "green-stick fracture," a name derived from the resemblance of the ends of the fragments to the denticulated surfaces of a freshly-broken stick, such as I show you here. This denticulated character, however, is not so marked in fractures of the femur as in some others, those of the clavicle and radius, for instance; and the several degrees of green-stick fracture, I may say, would be very well represented by

fractures of the clavicle, radius, and femur respectively. While in fracture of the clavicle in the infant the bone is rarely broken off entirely, this is commonly the case in fracture of the thigh. In this respect it resembles that in the adult, the fragments sometimes slipping quite past each other. Three degrees of green-stick fracture have been described:

In the first the bone is bent, but resumes its original shape. This was very fully illustrated in a series of experiments upon the bones of animals, which I published a number of years ago.

In the second the bone is bent and remains in this condition.

In the third the bone is not only bent, but broken off, and the fragments remain separated.

So much for the pathology of the accident.

Let us now turn our attention to the indications for treatment. In the adult, as I endeavored to impress upon you, the first indication is to avoid shortening, by overcoming the action of the powerful muscles which cause the fragments to override each other. In children, on the other hand, the overcoming of the action of the muscles is a point of secondary importance. The great indication in them is to prevent the deformity resulting from bending at the seat of fracture.

These are the only indications present:

First. To prevent bending.

Second. To prevent shortening.

Not infrequently the second indication does not exist at all, there being no danger of shortening, on account of the transverse character of the fracture and the easy adjustment of the fragments. In any given case the essential question to ask is, How shall we prevent bending? and this has always been the stumbling-block of surgeons.

As in almost all other fractures, of course, some sort of splint has been resorted to, but the trouble here with splints and the bandages necessary to keep them in position is, that they make pressure upon an exceedingly delicate skin, and that underneath this tender skin is a very large amount of adipose tissue, which yields very readily to any compressing force. As a consequence, the circulation is greatly interfered with, and long before the end desired (the union of the fragments of

bone) is accomplished this interference becomes so serious that the most disastrous results are liable to follow. Another reason why sloughing is apt to occur is, that the urine soils the dressing when the child is too young to understand the situation, and this, of course, causes excoriation. Hence we find that almost all cases of sloughing occur in children, adults not laboring under the same disadvantages. There are other reasons, also, why it is so difficult to treat fractures of the femur satisfactorily in children, and the following summary includes them as well as the reasons just mentioned:

1. The delicacy of the skin.
2. The abundance of fat.
3. Excoriation from urine saturating the dressing.
4. The fact that the limb is so short (its long and its short axes being almost of the same length) rendering it very difficult to get any purchase for splints.
5. The restlessness of children, who are continually tossing and tumbling about, and so are almost certain to disarrange any form of dressing that may be employed.

Since these difficulties are so numerous and serious, then, how have surgeons been accustomed to overcome them? I can give you very little information on this subject, for you may search surgical literature almost in vain for it. The books do not say much about it, for their authors have found it no doubt a very disagreeable subject; and most of them make no distinction between fracture of the femur in the child and in the adult. Some authorities have treated their little patients by laying the limb over an inclined plane; but this method is of no use whatever. The child invariably slips down out of position, and the fragments consequently become displaced. If you attempt to remedy this by elevating the hips, you are apt to drive the limb up, and so displace the fragments, and you may consider yourself extremely lucky if you should happen to keep the child in some one position for twenty-four or forty-eight hours just at the critical time when union is on the point of taking place. Fractures usually unite rapidly in children, and it may be that in some such brief period as this sufficient union between the fragments may be secured to withstand the strain to which they will be subjected in the future by the constant movements of your restless patient.

Again, plaster of Paris has been used more recently; but anybody who has employed it once will be scarcely likely to try it a second time. I am very sure that it must be a bad plan, and a little reflection will convince you why this should be the case. The plaster must necessarily get wet with urine in young children, and as certainly as it does it will cause excoriation. But even if this could in any way be prevented it would be exceedingly apt to cause excoriation, and even sloughing, as it not infrequently does in the adult. If there is danger of sloughing in the latter, this danger is infinitely increased in the case of the child, on account of the necessity of applying the bandage more tightly in children.

Without further discussion of any other methods, however, I will now pass on to speak of my own plan of treating these fractures. It is at present used very largely in this and other cities in the United States, and Mr. Erichsen informs me that it has been introduced into the London hospitals with great success. I do not claim it by any means as exclusively my own invention, but, like so many of the present improved methods of treatment at our command, it has been arrived at by the combination of the suggestions of various surgeons at different times.

I have, then, only added to and improved upon some of the plans adopted by others. The essential feature of the treatment is a long double splint, but I will describe the whole apparatus in detail. In the first place, after the adjustment of the fragments, the fractured thigh is dressed with four coaptation splints, precisely as in the adult, and to render the demonstration less tedious they have already been applied in the case of the child who represents the patient for us to-day. Next a long splint, very carefully padded, is placed on the outside of the limb (extension having first been made), and this is secured by rollers. As it is a troublesome matter to keep the limb straight, and this is so essential an object, the splint must be made long enough to reach to the axilla, and the upper portion of it should be made fast by additional rollers passing around the chest. This is designed to keep the axis of the thigh and leg (including the fragments, of course) in a line with that of the body; and the indication will be fulfilled in this manner, provided there is

no overlapping of the fragments or tendency to shortening. If this is the case, it will be necessary to make extension by means of the weight and pulley, as in the adult (though a traction-force of only two or three pounds is required), and counter-extension by means of a perineal band, only moderately tight, secured to the long external splint. The weight of the body cannot be relied upon for the latter purpose in children, as in adults, and the perineal band answers every purpose perfectly well. This extension and counter-extension is required in perhaps one case out of four. Another very important feature of the apparatus is a second long splint, which is secured to the sound limb and also passed up to the axilla, and the object of this is simply to keep the child quiet, for otherwise it would be constantly tossing about, to the imminent jeopardy of the straightness of the fractured thigh. Great care should be taken to have the knee firmly secured especially, for if it is not the patient will be sure to work the limb loose. Finally, the dressing is completed by making the lower ends of both the long splints fast in a wooden cross-piece. It will be found in practice that children submit with quite good grace to the inevitable, and they are usually perfectly contented after the apparatus has been on them for two or three hours. When the bed has become soiled by urine or fæces, the child and the whole apparatus can be lifted on to another one with the greatest facility, and thus the bed can be changed as often as is necessary.

So, you see, we have secured a dressing which fully answers every indication in the treatment of fractures of the shaft of the femur in children, and I assure you that unless you adopt it at the start you will go through a long series of unsatisfactory experiments in the treatment of such fractures, only to meet with disappointment and chagrin at the end.

#### AN UNUSUAL CASE OF COLLES'S FRACTURE.

The man who is now being anæsthetized has just entered the hospital with what has been pronounced outside a dislocation of the wrist-joint. Dupuytren was of the opinion that dislocation at this joint never occurred; but I believe that I have seen one case of it. On account of the extreme rarity of the accident, however, as well as the absence of its symptoms, I

think we can decide without much difficulty that the injury here is not of that character. It also presents some of the features of Barton's fracture, but I think we shall find, on examination, that it is not that either. Neither is it a simple Colles's fracture, for it was caused in a very unusual manner,—by the patient's falling upon the hand while it was doubled up. Apparently the fracture is an inch and a half above the joint, but in reality it is within half an inch of it. As I hold the arm up, you see that it looks like a Colles's fracture in that the hand is thrown backward, while, contrary to the usual rule in this fracture, it does not fall towards the radial side. This simple throwing back of the hand would be seen if it were a dislocation. Then why, you may ask, is it not a dislocation? Because the deformity commences too high up for that, and is not so abrupt as it would be with such an injury. The lower anterior extremity of the radius is not prominent, and I suspect that we have here a Colles's fracture, with the lower fragment comminuted and its posterior portions thrown out of place, while the anterior portions are not displaced.

In giving anæsthetics in the case of fractures it is essential that the action of the muscles should be completely overcome, or, in other words, that the patient should be entirely paralyzed. The man now being in that condition, I am not able, after a careful examination, to detect anything different from what I did before. You will remember that I told you that we could not always succeed in getting crepitus in Colles's fracture, but in this case, though it is seven or eight days since the accident was met with, I can still feel a little grating, though it is very slight. My first attempt at replacement will consist in pushing the fragment forward, and if that is unsuccessful it will be necessary to make more extension, in which case the fragment will not probably be maintained in position so easily, and some deformity may ultimately result in consequence. You observe that I am now simply pulling the hand forward, and now, having made two successive efforts, I find that the parts are perfectly in line. The diagnosis, therefore, was correct, and it could not have been a case of dislocation.

It only remains, then, to apply the dressing which you saw and which you heard

me describe at my last clinic; and I trust you have not forgotten the importance of having an absence of padding on the palmar splint at the point covering the lower fragment, with an excess of padding at the same point on the dorsal splint. From the ease with which the fracture was perfectly reduced, I have no doubt that we shall obtain as good a result in this case as though it were one of the ordinary "back-door" character.

### ORIGINAL COMMUNICATIONS.

#### REPORT ON ONE HUNDRED AND TEN CASES OF EXTRACTION OF CATARACT BY VON GRAEFE'S PERIPHERIC LINEAR METHOD.

BY M. LANDESBURG, M.D.

**T**HE peripheric linear extraction I have performed, in all essential points, strictly according to the method taught by Von Graefe, which, while acting under him in his clinic, I had ample opportunity to see him practise.

The deviations in the operation as used by me were the following:

1. All operations of cataract have been performed without any assistance.
2. The eyelids have been kept apart by the speculum.
3. No anæsthetics have been administered.
4. Eleven cases of cataract excepted, all have been operated with downward section, for the following reasons:

I fixed the eyelids only during section; when the section was done, but before making the conjunctival flap, I put away the fixation forceps, completing the operation without steadying the eyeball. In upward section I entirely depended upon the will of the patient to look downwards and thus to make accessible the field of operation. But every one knows how dangerous it is to rely during operations upon the obedience of the patient. He is usually unable to follow the directions of the surgeon, partly through confusion and anxiety, partly through awkwardness. Making the section downwards, I rendered myself entirely independent of the will of the patient. The eyeball turns upward of itself after the section is performed, maintaining this position during the progress of the operation. Besides, the downward

section affords this advantage, that any bleeding in the anterior chamber, which may occur in the course of the operation, has a better and easier exit. The objections presented by others against the downward section, *that the wound heals more slowly and with less good effect, and that vision is impaired by the downward coloboma*, I was in no way able to confirm.

While I made the iridectomy I kept the iris-forceps in the left hand and the scissors in the right. In eleven cases I made the iridectomy some time before. These were cases in which one eye was already operated, either with abnormal course of operation or with abnormal healing, or in which the general health of the patient induced me to be particularly careful.

The discision of the capsule was performed according to the known rules.

In removing the lens I pressed with one hand by the Daviel spoon the sclerotic edge of the wound slightly and gently downwards, while with the caoutchouc spoon in the other hand by light pressure and sliding movements over the cornea I endeavored to remove the lens as carefully and thoroughly as possible. After the removal of the lens the pupillary region was examined by oblique illumination.

In many cases of cataract I dilated the pupil by atropia previous to the operation, in other cases I omitted it. Neither the application nor the omission of the atropia seemed to exert any influence on the result of the operation.

When the healing process was normal, the after-treatment consisted in the application of the compressive bandage and in the use of atropia alone. The bandage was not removed until the wound was perfectly closed.

If in the course of healing any inflammatory process took place, atropia was applied oftener and warm poultices were used, likewise leeches and injections of morphia, if the case required. In cases of suppurative iritis I employed acute mercurialization, and in swelling of the lids I touched them with mitigated nitrate of silver.

In cases where the eyes recovered from the operation with membrane in the pupil, I needed the pupillary membrane in the third or fourth week after the primary operation, and only then when the eye was perfectly free from any irritation. In cases of any irritation I delayed the second-



any operation until the symptoms of inflammation were entirely removed.

In cases of double mature cataract I never operated both eyes at one time, but each eye at an interval of from four to five days. But if the first operated eye showed any symptoms of irritation, I postponed the second operation until the irritation had entirely subsided.

The one hundred and ten extractions of cataract were performed as they occurred, without selection, on ninety-five patients, of whom there were forty-seven males and forty-eight females. Of those, fifteen patients were operated on both eyes.

Classified according to the form of cataract, the present report contains:

1. Eighty-one senile cataracts, comprising all primary cataracts in persons from the fortieth year of age upwards.

2. Nine soft cataracts, comprising all primary cataracts in persons less than forty years old.

3. Eleven traumatic cataracts caused by an injury of the eye, in patients of all ages.

4. Nine complicated cataracts. These are cases in which the cataract was either preceded or followed by intraocular diseases, as those of the vitreous, the choroid, retina, and optic nerve. Of these the prognosis is very unfavorable and the result of the operation very doubtful.

Of senile cataract there were operated twenty-nine men and thirty-seven women; of the former, twenty-one right and fifteen left eyes, of the latter, twenty-six right and nineteen left eyes. Of the double operations of cataract seven belong to the male and eight to the female sex.

The ages are as follows: Men: from 40 to 49 years, 3; from 50 to 59 years, 14; from 60 to 69 years, 10; 77 years, 1; 83 years, 1. Women: from 40 to 49 years, 11; from 50 to 59 years, 11; from 60 to 69 years, 12; from 70 to 75 years, 3.

I have classified the result of the operations as:

1. Perfect success, if the vision restored by the operation was greater than the fraction  $\frac{1}{10}$ .

2. Imperfect success, if the vision was below  $\frac{1}{10}$ .

3. Loss, if the result of the operation was only qualitative or quantitative perception of light.

According to these principles we have—

a. Of the 29 men:

1. A perfect success in twenty-seven

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eyes, with the vision of  $\frac{1}{10}$  in 2 cases;  $\frac{1}{10}$  in 6 cases;  $\frac{1}{20}$  in 5 cases;  $\frac{1}{30}$  in 4 cases;  $\frac{1}{40}$  in 4 cases;  $\frac{1}{50}$  in 4 cases;  $\frac{1}{100}$  in 2 cases.

2. An imperfect success in six eyes, with the vision of  $\frac{1}{200}$  in 1 case;  $\frac{1}{300}$  in 1 case;  $\frac{1}{400}$  in 1 case;  $\frac{1}{500}$  in 1 case; counts fingers at a distance of 8' in 1 case.

3. Loss of three eyes.

b. Of the 37 women:

1. A perfect success in thirty-nine eyes, with the vision of  $\frac{1}{10}$  in 1 case;  $\frac{1}{10}$  in 1 case;  $\frac{1}{20}$  in 8 cases;  $\frac{1}{30}$  in 8 cases;  $\frac{1}{40}$  in 9 cases;  $\frac{1}{50}$  in 1 case;  $\frac{1}{60}$  in 1 case.

2. An imperfect success in three eyes, with the vision of  $\frac{1}{200}$  in 1 case; count fingers at a distance of 10' in 2 cases.

3. Loss of three eyes.

Of the seven double operations of cataract of the men, there was: 1, perfect success in five patients; 2, the loss of one eye in one patient; and, 3, the loss of both eyes in one patient.

Of the eight double operations of cataract of the women, there was in seven patients a perfect success; in one patient the loss of one eye.

Of soft cataract, there were operated four men and five women; of the former, one right and three left eyes, of the latter, three right and two left eyes.

The ages were as follows: Men: 18 years, 2; 20 years, 1; 27 years, 1. Women: from 20 to 29 years, 4; 37 years, 1.

The result of the operation was:

a. Of the men:

1. A perfect success in three eyes, with the vision of  $\frac{1}{10}$  in 1 case;  $\frac{1}{10}$  in 2 cases.

2. An imperfect success in one eye, with the vision of  $\frac{1}{200}$ .

b. Of the women:

1. A perfect success in four eyes, with the vision of  $\frac{1}{10}$  in 2 cases;  $\frac{1}{10}$  in 2 cases.

2. An imperfect success in one eye. Counts fingers at 5'.

Of traumatic cataract, there were operated, of six men, four right and two left eyes; of two women, two right eyes; of two boys, two left eyes; and of one girl, the right eye.

The ages were as follows: Men: from 16 to 19 years, 2; from 30 to 39 years, 2; 25 years, 1; 52 years, 1. Women: 28 years, 1; 32 years, 1. Boys, 14 years, 1; 15 years, 1. Girl, 14 years, 1.

The result of the operation was:

a. A perfect success:

1. Of the six men, with the vision of  $\frac{1}{8}$  in 2 cases;  $\frac{1}{10}$  in 2 cases;  $\frac{1}{12}$  in 2 cases.

2. Of the boys, with the vision of  $\frac{1}{8}$  and  $\frac{1}{10}$ .

3. Of one woman, with the vision of  $\frac{1}{10}$ .

4. Of the girl, with the vision of  $\frac{1}{10}$ .

b. An imperfect success:

Of one woman. Counts fingers at 8'.

Of complicated cataract, there were operated, of six men, three right and three left eyes; of two women, one right and two left eyes; and of one girl, the left eye.

The ages were as follows: Men: 16 years, 1; 28 years, 1; 49 years, 1; from 60 to 70 years, 1. Women, 46 years, 1; 67 years, 1. Girl, 9 years, 1.

The result of the operation was:

a. Of the men:

1. A perfect success in four eyes, with the vision of  $\frac{1}{8}$  in 2 cases;  $\frac{1}{10}$  in 1 case;  $\frac{1}{10}$  in 1 case.

2. An imperfect success in one eye. Counts fingers at 2'.

3. Loss of one eye.

b. Of the women:

1. A perfect success in one eye, with the vision of  $\frac{1}{10}$ .

2. An imperfect success in one eye. Counts fingers at 9'.

c. Of the girl:

An imperfect success. Counts fingers near by.

Summing up the results of the operation, we have:

1. A perfect success in eighty-eight cases, with the vision of  $\frac{1}{8}$  in 1 case;  $\frac{1}{10}$  in 5 cases;  $\frac{1}{12}$  in 7 cases;  $\frac{1}{10}$  in 19 cases;  $\frac{1}{10}$  in 24 cases;  $\frac{1}{10}$  in 16 cases;  $\frac{1}{10}$  in 7 cases;  $\frac{1}{10}$  in 6 cases;  $\frac{1}{10}$  in 3 cases.

2. An imperfect success in fifteen cases, with the vision of  $\frac{1}{10}$  in 2 cases;  $\frac{1}{10}$  in 2 cases;  $\frac{1}{10}$  in 1 case;  $\frac{1}{10}$  in 1 case;  $\frac{1}{10}$  in 1 case; count fingers at 10' in 2 cases; counts fingers at 9' in 1 case; count fingers at 8' in 2 cases; counts fingers at 5' in 1 case; counts fingers at 2' in 1 case; counts fingers near by in 1 case.

The course of the operation and of the healing process of the hundred and ten cataracts was as follows:

In seventy-seven cataracts the course of

the operation was perfectly normal. Of these, sixty-one cataracts underwent a perfectly normal process of healing, with a perfect success of vision in fifty-nine cases. Two cases had only an imperfect success, resulting from intraocular diseases previous to the operation, which destroyed vision. These two cases were as follows:

1. Boy, 16 years old. Right eye. Soft cataract. Operation and course of healing normal. Result, counts fingers at 2'. The background of the eye shows very large circumoptical choroidal atrophy; very large atrophy of the choroid and pigment macerations; retina in some parts atrophic.

2. Girl, 9 years old.

Left eye. Soft cataract. Operation and healing process normal. Result, counts fingers near by. The cause of the imperfect success was atrophy of the optic nerve.

In the other sixteen normal operations of cataract the healing process was abnormal.

1. In seven cases there occurred iritis. Final result, perfect success.

2. In four cases eye recovered with membrane in pupil. Final result, perfect success.

3. In two cases there was iritis, followed by closed pupil, resulting in imperfect success, viz.:

a. Carpenter's wife, 64 years old. High degree of senile marasmus.

R. E. Medium hard, mature cataract, with large nucleus. Operation normal. On the second day of the operation there was but slight irritation, which in the following days developed into iritis with hypopion, and ended with closure of pupil. When the patient was discharged, she counted fingers at 10' with +3.

b. Laborer, 59 years old, drunkard.

R. E. Soft, nearly mature cataract, with small nucleus. Operation normal. Twenty-four hours afterwards, exudative iritis broke out, ending with closure of pupil. Three months after the departure of the patient from the infirmary, iridectomy and laceration of the opaque membrane. V =  $\frac{1}{10}$  with +4.

4. In one case hemorrhage occurred in the anterior chamber leading to imperfect success, as follows: tailor's wife, 29 years old. General health very feeble.

L. E. Soft, mature cataract. Operation

normal. On the sixth day after the operation, during which the healing process was totally normal, and after the removal of the bandage, a considerable hemorrhage in the anterior chamber took place, which repeated itself on the seventeenth day. At the time of her dismissal, six weeks after the operation, the vitreous was still so cloudy that the background of the eye could not be seen. Patient counted fingers at 5'.

5. In one case irido-cyclitis set in, leading to phthisis of the eyeball, viz., farmer's wife, 62 years old.

R. E. Hard, mature cataract, with large nucleus. Operation normal. On the second day a slow form of irido-cyclitis began, which, followed by hemorrhages, led to phthisis of the eyeball.

6. In one case panophthalmitis set in, leading to phthisis of the eyeball, viz., servant, 53 years old.

R. E. Medium hard, mature cataract, with large nucleus. Operation normal. On the day following, suppuration on the edges of the wound took place, which progressed so quickly that on the third day the anterior chamber was filled up with pus. The result was phthisis of the eyeball.

In thirty-three cataracts the course of the operation was abnormal.

A. In thirteen cases small fragments of cortex were left in the eye.

Of these the healing process was as follows:

1. In five cases without any accident whatever, with delicate membrane in pupil and perfect success of vision.

2. In three cases with iritis and lateral pupillary membrane, but with good central pupil and perfect success of vision.

3. In four cases with iritis and membrane in pupil, of which there were two cases with perfect success, and two with imperfect success; the latter two as follows:

a. Baker, 67 years old.

R. E. Hard, mature cataract, with medium large nucleus.

On lacerating the capsule, luxation of the lens upwards and outwards. Lens removed with spoon. Some small pieces of cortical remained. In the course of healing, a slow form of iritis set in, ending in capsular opacity. Five months after the operation, iridectomy upwards and lacer-

ation of the pseudo-membrane, resulting in vision of  $\frac{10}{200}$  with +3 $\frac{1}{2}$ .

b. Farmer's daughter, 28 years old.

R. E. Perforating wound of the centre of the cornea. Traumatic cataract. Cortical very much swollen. Anterior chamber very shallow. Eyeball soft. Injury of the eye twenty-four hours previous.

On making the section a part of the fluid cortical substance was emptied through the corneal wound; the remaining cortical had to be removed with the spoon. Patient, having been insane two years previously, was very unruly and violent, tore off bandages, making any after-treatment entirely impossible. Wound healed spontaneously. The result was: leucoma, adhesion of the cornea, and secondary cataract. Six weeks after the first examination, patient counted fingers at 8'.

4. In one case with iritis followed by closed pupil, resulting in an imperfect success, viz., smith, 55 years old.

R. E. Hard, mature cataract, with large nucleus. The nucleus had to be removed with the spoon. Small pieces of cortical remained. On the second day, iritis with consecutive cyclitis, ending with closed pupil. At the time of discharge, on the twenty-fourth day of the operation, patient counted fingers at 8'.

B. In six cases there remained in the eye cortical with blood. Of these the healing process was as follows:

1. In three cases without any irritation, with membrane in the pupil and with perfect success.

2. In one case with iritis and lateral pupillary membrane and with perfect success.

3. In one case with iritis and closure of pupil and with imperfect success, viz., weaver, 62 years old.

L. E. Soft, nearly mature cataract, with medium-sized nucleus. While removing the lens, luxation of the same upwards and inwards. Lens removed with the spoon. Some crumbs of cortex remained. Hemorrhage in the anterior chamber after the operation. During the following thirty-six hours the eye did perfectly well. On the morning of the third day patient became unruly and violent, and senile dementia broke out, lasting for about five days. A regular treatment of the operated eye could not be effected. Exudative iritis set in, followed by closed pupil. At

the time of his discharge, on the forty-third day after the operation, patient counted fingers at 4'.

4. In one case with irido-cyclitis and loss of vision, viz., officer's widow, 59 years old. General health very feeble.

R. E. Soft, mature cataract, with small nucleus. After iridectomy, considerable hemorrhage in the anterior chamber. Lens removed with spoon. On the second day, irido-cyclitis, followed by phthisis of the eyeball.

c. In three cases loss of vitreous took place. Of these the healing process was as follows:

1. In two cases with irritation and with perfect success.

2. In one case with slight irritation and imperfect success, viz., merchant's wife, 67 years old.

R. E. Black cataract. Nucleus very large and dark-colored. While removing the lens, prolapse of vitreous occurred. Lens removed with spoon. One or two drops of vitreous lost. Reaction slight. Pupil remained clear and dilated. At the time of her discharge, on the twenty-ninth day of the operation, the vitreous was still very cloudy.  $V = \frac{10}{200}$  with +3.

D. In eleven cases loss of vitreous occurred, and fragments of cortex remained in the eye. Of these the healing process was as follows:

1. In two cases without irritation, with lateral pupillary membrane and perfect success.

2. In five cases with iritis, followed by closed pupil and imperfect success, viz.:

a. Farmer's wife, 65 years old.

R. E. Hard, mature cataract, with large nucleus. After opening the capsule, loss of vitreous and luxation of the lens. Lens removed with spoon. Some cortical remained. Forty-eight hours afterwards, prolapse of vitreous into the wound, followed by iritis and repeated hemorrhages in the anterior chamber. Eye recovered, with closed pupil. Three months afterwards, iridotomy. Result,  $V = \frac{10}{200}$  with +3½. Floating bodies in vitreous.

b. Laborer, 49 years old, drunkard.

R. E. Soft, mature cataract, with small nucleus. After lacerating the capsule, loss of one or two drops of vitreous. Lens removed with spoon. Some small pieces of cortex remained. On the evening

after the operation, iritis set in, followed by exudations into the anterior chamber. Eye recovered, with closed pupil. At the time of his discharge, on the thirty-ninth day of the operation,  $V = \frac{8}{200}$  with +3½.

c. Tailor's wife, 57 years old.

L. E. Medium hard, mature cataract, with medium-sized nucleus. While lacerating the capsule, luxation of the lens took place. One or two minims of vitreous escaped while removing the lens with spoon. Small fragments of cortical remained. Irido-cyclitis set in, producing closure of pupil. At the time of the discharge, on the thirty-fifth day of the operation, patient counted fingers at 10' with +3½.

d. Laborer, 20 years old.

L. E. Soft, mature cataract. Anterior chamber shallow. Dilatation of the pupil by atropia very sluggish and imperfect. While removing the lens, loss of one or two drops of vitreous. Some cortical remained. Slow form of iritis set in, ending with closed pupil. Three months after the operation, iridotomy. Result,  $V = \frac{10}{200}$  with +3½. But four weeks afterwards the vision is only  $\frac{10}{200}$ . Same state after six months.

e. Locksmith, 69 years old.

R. E. Phthisis of the eyeball, in consequence of operation of cataract made elsewhere.

L. E. Hard, mature cataract, with large nucleus. Luxation of the lens while opening the capsule. Removal of the lens with spoon. Loss of some vitreous. Some crumbs of cortex remained. Iritis followed, producing closure of pupil and slight degree of phthisis of the eyeball. Four months after the operation, iridotomy. Result,  $V = \frac{15}{200}$  with +3½. Vitreous cloudy.

E.—In three cases there occurred suppurative iritis and hyalitis, with loss of vision, as follows:

a. Smith's wife, 41 years old. Mother of eleven children. Has suffered with profuse hemorrhages in childhood.

L. E. Medium hard, mature cataract, with small nucleus. On removing the lens, luxation of the nucleus took place. The nucleus had to be removed with spoon, whereupon loss of some minims of vitreous. A few fragments of cortical remained. Suppuration in the pupillary



region set in, causing secondary suppuration of the cornea, ending with atrophy of the eyeball.

*b* and *c*. Laborer, 59 years old, drunkard. General condition very poor. Of both eyes, medium hard, mature cataract, with large nucleus.

R. E. On attempting to remove the lens, prolapse of vitreous took place. Lens was removed with spoon. Some cortical remained. Twenty-four hours after the operation, violent iritis, with suppuration in the anterior chamber. Result, panophthalmitis and phthisis of the eyeball. Sixteen months afterwards, after having performed iridectomy six weeks previously, the extraction of cataract of the left eye was made. On lacerating the capsule, a large quantity of fluid vitreous escaped through the section. The lens had to be removed with spoon. Cortical remained. In this eye, too, there was repeated the same process of suppurative iritis and hyalitis, ending with phthisis of the eyeball.

F.—One case was lost by suppurative hyalitis, viz., weaver, 60 years old. General health very poor.

R. E. Black cataract, with large, dark nucleus. While lacerating the capsule, a large quantity of fluid vitreous escaped. Lens removed with spoon. The twenty-four hours following the operation the eye did perfectly well. In the second night patient became restless and troublesome, left his bed and tore off the bandage. Senile delirium broke out. The wound re-opened. Iritis set in, followed by hyalitis. Result, form of the eye intact, but no vision.

1605 ARCH STREET, PHILADELPHIA.

## NOTES OF HOSPITAL PRACTICE.

### PENNSYLVANIA HOSPITAL.

CLINIC OF DR. J. M. DA COSTA.

Reported for the *Medical Times*.

#### SALICYLIC ACID IN ACUTE RHEUMATISM.

THE patient is 22 years of age, and a widow. She inherits the rheumatic diathesis from her father. Last Christmas she took cold, and was confined to bed with chills and fever for a week. Her knees at that time began to swell, and

grew red and painful. From that day until now the rheumatism has steadily progressed, involving joint after joint, until it has finally attacked the fingers. The case has plainly been one of an essentially migratory character. First one joint would be affected, then in a day or two the pain and swelling would leave that joint and settle upon another. So the disease has gone on from bad to worse, until, after a partial recovery, followed by a dangerous relapse, the patient was admitted to the wards on February 5. Her temperature was  $101^{\circ}$ , with a slight falling remission of less than  $1^{\circ}$ . The ankle-joints, the left in particular, were very much swollen, looking as if they had borne the brunt of successive attacks.

Soon after admission ten grains of salicylic acid were administered, and the dose repeated every hour until six doses had been taken. The amount of the dose was then reduced so that about a drachm of the acid would be taken in the course of twenty-four hours. The results of this treatment were most striking. On February 8, three days after admission, the temperature fell to  $99\frac{1}{2}^{\circ}$ ; on the following morning it was down as low as  $99^{\circ}$ . This represents the record of last night and this morning.

There has also been a very marked change in the condition of the woman's skin. Upon admission it was harsh; now the skin is soft, and the perspiration gentle. The reduction in the amount of pain has been very great. To-day, in fact, the woman is almost free from pain, and can move all her joints, except the ankle-joints, without giving rise to any pain whatsoever. The swelling in her hand has wholly disappeared, except in the first metacarpal joints, where there is still some slight stiffness and swelling. The left ankle is also still sore.

After all, however, I am not inclined to lay much stress upon the disappearance of all the external signs of the attack. The internal symptoms of acute rheumatism are always the most dangerous ones. Upon admission the patient exhibited, upon careful auscultation, a slight pericardial friction-sound. This morning I examined her chest again, and although still present, the sound was but very slight. One of the good results of our treatment has therefore been that the pericarditis has not been followed by an effusion. There are

at present no valvular sounds. I ought to say, just here, that enough morphia was administered in conjunction with the salicylic acid to quiet the patient and ease the paroxysms of pain. The pericarditis was checked by the application of a blister over the heart on February 6, and by subsequent poulticing of the blistered surface.

Before sending this case out, I wish to call your attention particularly to four or five points connected with it. Let us (1) examine the state of the left foot and ankle. They are much swollen, and the swelling is not confined to the joint, but has involved all the tissues of the foot. This condition of things is an unusual one, being but rarely found in acute rheumatism. Here the successive attacks settling upon the same joint have brought on a persistent, inflammatory thickening. This condition will, I fear, result in a permanent stiffening of the joint, a partial ankylosis, such as often succeeds rheumatic gout. We may have an abscess formed. To sum up, we may have certain marked local changes taking place which are unusual in rheumatism, except as sequences of successive localized and unrelieved attacks. There is generally no permanent lesion of the joints or of the connective tissue. Here I fear an exception to the general rule.

I would call your attention (2) to the wonderful effects of the acid in this instance. There had been frequent relapses, and all other treatment had failed, and yet all the symptoms were entirely controlled in three days by the new remedy. You should remember that, as a general rule, if salicylic acid acts at all, it acts promptly. Therefore, salicylic acid, or the salicylate of sodium, to be successful, must be promptly so. If it does not cause a change for the better in the course of two or three days, give it up and try something else. If the acid had shown no good result by to-day in the case of this woman, it would have been useless to continue the treatment longer.

There is a great disadvantage (3) in the administration of large doses of salicylic acid. They may bring on fatal depression. Less than a drachm of the acid in the course of the first twenty-four hours is useless. You ought to be able to administer as much as a drachm and a half without producing any bad results. I prefer the salicylate of sodium to the un-

combined acid; it is better borne by the stomach, and can be given in larger doses. I repeat what I said before: there is danger of great prostration following the use of large doses of the acid; therefore, if the pulse becomes feeble and the patient delirious at any time, stop the remedy instantly. Deaths have been reported as following this very prostration and delirium. Another thing: never give salicylic acid in cases of cerebral rheumatism. It is prone of itself to produce dangerous cerebral symptoms.

What (4) about the pericarditis? Has the salicylic acid any influence on pericarditis and endocarditis? What change of treatment does their presence indicate? We must have definite opinions upon these subjects. Salicylic acid has no effect whatsoever upon the cardiac complications of acute rheumatism. Over the fever, and pain, and swelling, it exerts, as you have seen, an excellent influence. Upon the pericarditis and endocarditis it has no effect whatsoever. Where these complications exist you had better unite with the acid some other remedy. In this instance a blister was all that was necessary. In more severe cases, give large doses of digitalis, or of acetate of potassium.

What (5) shall be the after-treatment? The rheumatism has been checked by salicylic acid, and the heart affection has yielded to blistering. There still remain the local thickening and inflammation of the ankle-joint. What shall we do for that? How try to prevent the occurrence of partial ankylosis? I shall order a series of small blisters applied. The part shall then be enveloped in warm-water dressings, so as to keep up constant moisture and secretion. Chronic thickening may haply be thus prevented. In the mean while, we must not give up the salicylic acid. We will, however, reduce the dose to forty grains in the course of the twenty-four hours. If the woman shows any tendency to relapse, I shall order her placed on quinia. In all cases of this kind, whether my treatment has been by the alkalies, by large doses of the bromides, or by salicylic acid, I have always treated relapses with quinia. To prevent the recurrence of relapse, I will have this patient take twelve grains of quinia daily. As regards diet, she must have milk, eggs, tea and toast, and occasionally oysters and meat. We shall watch carefully the peri-

carditis, and apply repeated small blisters to the ankle, followed by fomentations.

Before dismissing the subject, I wish to show you this post-mortem specimen of acute pericarditis. The girl from whom it was taken was admitted to the hospital in a dying condition. She had extensive pericarditis with effusion, pneumonia of the right side, and pleurisy of both. Under this complication of disorders she rapidly succumbed. You see that the whole pericardium is covered with thick lymph. Where pericarditis has reached that stage it is next to impossible to check it. I have brought this specimen before you to show you what pericarditis, in its most advanced stage, really is.

*THE HYPODERMIC INJECTION OF DIALYZED IRON IN CHLOROSIS.*

A. L., aged 21 years, single, has a history of hereditary lung trouble. Thus far the girl herself has given no evidence of any pulmonary disease. She has never had malarial fever, nor rheumatism. Last spring she began to feel badly. She lost strength and health, and suffered from frequent attacks of palpitation and dyspnoea. On Christmas last the symptoms became worse; her legs and feet began to swell, and she passed more water than normal. At present her appetite is fair, her bowels are regular, and she sleeps moderately well. There has been a total arrest of the menses for the past three months. Her digestion is only fair. There has been no loss of flesh.

This is a typical case of chlorosis. There are several questions, however, which must first be settled before I proceed to tell you of my new plan of treatment. Is (1) the marked anæmia present in this case connected with any organic cause? And (2) is the swelling of the lower extremities due to cardiac disease, or to disease of the blood? The girl's temperature is about normal, with a range of from 98° in the morning to 99° in the evening. You notice how pale her tongue and gums are. The conjunctiva is pearly, and the ears are pale. Examining the heart, I find that it beats very rapidly. This is probably largely due to the excitement of being before the class. Even in the wards, however, it beats rapidly. The heart-sounds are sharply defined. There is no sign of valvular disease. On the right and left side of the base of the heart I hear a soft systolic murmur. There is no en-

largement of the heart. The murmur which I hear is undoubtedly a blood-murmur. This murmur is faintly transmitted into the carotids. I can distinguish a very marked "venous hum" in the jugulars. I have never heard this hum so plainly before. The "venous hum" is a sign of extreme anæmia. I find no cause whatsoever of circulatory disturbance. I see only the signs of a change in the condition of the blood. There is no disease of the liver, lungs, spleen, or uterus; no organic trouble anywhere. We call cases of this kind by the name of chlorosis. We are unable to find out why the blood is changed. This girl's blood has been examined microscopically. There is no change in the relative proportion of white to red blood-corpuscles. There is, however, a slight deficiency in red corpuscles. This could not be properly called a case of leucocythæmia. It is undoubtedly chlorosis,—menstrual disorder, connected with deficiency of the red blood-corpuscles. The palpitation, dyspnoea, and swelling of the feet are symptoms of the deficiency in the red element of the blood, and not the results of any organic disease.

The girl has improved vastly under treatment. She is getting plenty of rest and good food, but she had them both in abundance before she came to us. Her rapid improvement is altogether due, I think, to a new remedy which I am employing in a very novel manner. I refer to the rapid introduction of iron into the girl's system by means of the hypodermic needle. Why has this not been practicable before the present day? Because it has been wellnigh impossible to obtain a non-irritative form of iron for hypodermic use. The tartrate of iron, although one of the mildest forms, is entirely too liable to cause irritation and abscesses. Lately a new preparation of iron, the dialyzed iron, appeared in the market, which, it is claimed, is neutral and non-irritating. It struck me at once that this was just the thing to be used in my proposed hypodermic injection. I have been using this dialyzed iron hypodermically in this case for the past few days, and it has come fully up to its reputation. There have been none of the usual after-effects of iron, such as costiveness and disordered digestion. All these are done away with. I have been giving daily hypodermic injections of fifteen minims of pure dialyzed

iron. The iron was diluted at first, but, experiencing no unpleasant after-effects, the assistant has, for the past day or so, been using the dialyzed iron undiluted. For the last four days the girl has had a daily injection of fifteen minims. The scars marking the spots where the needle has been introduced show no sign whatever of inflammatory action. To-day the patient shall have an injection of twenty, to-morrow of twenty-five, and on the next day of thirty minims of the pure, undiluted iron. I think we are going to gain in therapeutics by this case. I certainly expect to find a very rapid change for the better in the girl's condition in the course of the next five or six days. I will bring her before you again and report progress on Saturday next. Between now and then I will see that her blood is carefully examined under the microscope by an expert.

[The girl was again brought before the class two weeks afterwards (February 23). She showed the most wonderful improvement. Dr. Da Costa said, "You will remember that when I last brought this case before you the blood-murmurs were distinct, and that there had been no menstrual flow for the space of three months. The daily injection of thirty drops of the dialyzed iron under the skin of the girl's arm has not caused the least irritation. Her digestion is admirable, and, what is most wonderful of all, she has menstruated during the past week. Her strength is so much better that she wants to go right home. You see how the color is coming back to her lips, gums, and tongue. Another evidence of her very marked improvement is the fact that the 'venous hum,' which was so loud and marked two weeks ago, is comparatively distant and faint this morning. I am convinced of the most positive and marked improvement in the case. The temperature is normal and steady. She feels well, her appetite is good, her bowels regular, and her headache all gone.

"Now that we have reached a point of such marked improvement, the question arises as to whether we shall continue this treatment by hypodermic injection, or give it up and place the patient on iron by the mouth. I think we may discontinue the hypodermic medication. In place of it, I will order twenty drops of the tincture of the chloride of iron, in water, thrice daily.

You will understand that I do this because I consider the case as practically cured.

"Do I think that we should have had such a rapid cure, and one so unattended with constipation and indigestion, if we had given the iron internally? I think not. You see, therefore, how excellent a method that by hypodermic injection is when the stomach will not retain the iron. Where the stomach will retain slight quantities of iron, we might give a little of the drug by the mouth, and the bulk of it hypodermically.

"Knowing how the iron thus introduced has acted here, we might with advantage employ this treatment in cases of pernicious anæmia. I say we ought to retry the use of iron in pernicious anæmia,—try its use hypodermically. The only reason, perhaps, that it has thus far failed to do good in that disease has been because of the great digestive disturbances attending its use."]

## TRANSLATIONS.

ERUPTION FOLLOWING THE USE OF BELLADONNA.—M. Ferdinand Dreyfous communicated the following case to the Clinical Society of Paris (*La France Méd.*, 1877, pp. 754 and 762). A patient, 32 years of age, suffering with paralysis agitans, was ordered pills of belladonna. On the first day he took .025 milligramme ( $\frac{3}{8}$  gr.) of the extract; on the second, .050 milligr. ( $\frac{3}{4}$  gr.); on the third, .075 milligr. ( $1\frac{1}{8}$  gr.). By this time he had taken in all .15 centigramme ( $2\frac{1}{4}$  gr.) of the extract. He was now ordered a vapor bath. He had already begun to experience itching, which by the third night became almost intolerable. Suddenly his body was covered with a polymorphic eruption, generally erythematous and scarlatiniform, but at some points displaying small vesicles. Itching had begun in the upper limbs, passed from them to the penis, then the face, and finally the lower limbs. When seen, he looked as if the subject of general erysipelas. The entire face was red, the eyelids œdematous and so swollen that, partly on this account, partly because of the pain of moving them, they remained closed. The pupil could not be seen.

On closer examination, the forehead was observed to be bright red, covered with small, yellowish crusts; small yellow or



white points could be observed through the general red color. To the touch the skin was rough and infiltrated as in certain erythemata, the surface red and raised, but not abruptly, from the surrounding healthy skin. Towards the hairy scalp patches of reddened skin could be observed, which, however, were not raised above the surrounding surface. Small vesicles could be noticed on the edges of the enormously swollen eyelids. No eruption could be observed on the lower part of the jaws, the chin, or the nose. On one day the right ear itched, the next the left, the pinna of which was red and tumefied. Behind the ears and on the neck also the skin was red. On the limbs, in particular, the eruption resembled erythema papulatum. The skin of the arm and forearm (extensor surface) was yellowish red, dry, and covered with scales from dried vesicles; on the flexor surfaces somewhat less red, but about the bend of the elbow somewhat moist. The backs of the wrists and hands were affected, but not the palms. Some swelling and pitting on pressure over the right arm. No engorged ganglions in the axilla or epitrochlear region. On the trunk a rosy disseminate eruption in large areas, composed of minute elevated papules, each covered with a vesicle, mostly desquamating. About the anus some weeping, in addition to the usual eruption, which likewise involved the genitals and thighs. The legs and feet showed little or no eruption, though the itching in these parts was quite marked. Some sensation as of cold in the head. No dryness of the pharynx or mouth, or salivation. Almost entire suppression of urine for some time. Spontaneous recovery took place within a few days of the withdrawal of the belladonna.

In speaking of the case under consideration, and of belladonna eruptions in general, M. Dreyfous quoted largely from various writers upon the subject, showing great diversity of expression with regard to the appearance and symptoms of the eruption. x.

TWO CASES OF CEREBRAL RHEUMATISM TREATED BY COLD BATHS.—M. Langlebert has observed the two following cases (*La France Méd.*, 1877, p. 746). A woman, who had suffered with acute articular rheumatism eight or ten days, presented, when first examined, redness, tumefaction, and pain on pressure in various joints. Heart

normal, except a soft apex-murmur with the first sound. No pain in head or neck; mind clear; no delirium. Salicylic acid internally. The next evening a dose of morphia was administered, which was followed by uneasy slumbers, broken by wandering delirium, which was followed towards morning by coma. Temperature 106.3°. A bath at 77° was then given. Twenty-five minutes later the patient's temperature had fallen to 102.9°. She regained consciousness to a partial degree. When the water was drawn off, after a bath of two and a half hours, her temperature had sunk to 100° in the axilla. At this time the patient had not recovered consciousness entirely, but she did so within a few hours, and made a good recovery.

The second case was similar, excepting that the rheumatism was complicated with chronic bronchitis. The patient became insensible during the course of the disease, fell into coma with stertorous and irregular respiration, cyanosis of the face, with frothy lips, and a temperature which gradually rose to 107.9°. A bath of thirty-five minutes was administered, at the end of which time the patient's consciousness had only partially returned. The temperature, however, remained at 104.5° for twenty minutes, but during the last fifteen minutes in the bath it fell rapidly to 99.3°. Next morning it was 100.7°, and consciousness was completely restored. Recovery took place without heart complication. The bronchitis had totally disappeared. Certain nervous symptoms which were observed during and after the bath are noted by M. Langlebert briefly. x.

FEEDING CHILDREN.—Filippo Lussana (*Jour. des Sci. Méd.*, No. 12, 1877; from *Gazetta Med. Ital.*) says it has long been known that the saliva during the first weeks of infancy has not the power of saccharifying starchy matters, and consequently infants at this tender age cannot digest amylaceous substances. Instinct has taught this fact to the women of certain countries, so that in Lombardy, for instance, mothers are accustomed to chew and insalivate bread, etc., before giving it to their infants. This fact of the indigestibility of corn-starch, farina, and the like, by infantine stomachs, needs repetition, since the attempt to raise children by hand on these substances is constantly being made. x.

## PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MARCH 2, 1878.

### EDITORIAL.

#### THE PUBLIC ANALYST BILL.

DR. EDGE has recently introduced into our State Legislature a bill which we consider of the utmost importance to the general community, and especially to physicians as conservators and guardians of the public health. Pending legislative action upon it, we desire to enlist the sympathy and bespeak the support of the profession in its behalf. It is entitled "An act to make provision for the sale of food, drink, and drugs in a pure state, and to provide punishment for the wilful adulteration of the same," and its preamble sets forth the fact that "the practice of adulterating articles of food and drugs offered for sale, to be used by man and dumb animals, has become so frequent as to cause serious injury to the health and danger to the lives of those who use them, and demands the enactment of more stringent and effective laws for its repression and punishment."

The practice thus alluded to is one of which the consequences, both immediate and remote, are of the gravest import. It is hardly necessary to cite special instances of the evil effects of adulteration, nor is it at all requisite to go into an argument to prove the undenied existence of a practice which is so widely spread that it would probably be safe to say that four-fifths of the staple articles of food and drink, and at least one-half of the drugs, consumed in this country are in one way or another lowered in nutritive value or physiological activity for the sake of adding to the profits of the collector, the manufacturer, or the vendor.

The same state of affairs exists in other

countries, and has with them, as with us, finally become unbearable. According to a correspondent of the *Nation*, a commission is now at work in Berlin, draughting a bill to prevent the adulteration of eatables and drinkables, and the use of materials detrimental to health in the manufacture of wall-papers, wearing-apparel, toys, etc. The brewers have demanded penal laws to stop the manufacture of beer from dye-woods, molasses, quassia, and other cheaper and more harmful materials, fifty per cent. of the twenty different kinds of beer brewed or sold in Berlin being officially declared not to consist of malt and hops. Seventeen kinds of chocolate, which is largely used as an aliment by the Germans, have been analyzed with almost incredible results. Nine of them contained no cacao at all, and the majority were made up of vegetable dyes, ground cacao-pulps, bad sugar, and worse flour. A large wine-house of good repute in Berlin, whose specialty was the purest and dearest wines for sick people, has been closed because there was not a drop of real wine in the bottles.

The Society of Public Analysts of Great Britain, composed of men who for years have been charged with the work of detecting and exposing the various methods and materials employed in the sophistication of food and drugs, and whose work has been of the greatest value and importance, define an article to be adulterated, in the case of food or drink: 1, if it contain any foreign ingredient which may render such article injurious to the health of a consumer; 2, if it contain any substance which sensibly increases its weight, bulk, or strength, or gives it a fictitious value, unless it be necessary to its collection, preservation, or manufacture; 3, if any constituent be wholly or in part abstracted or omitted, or if it be in imitation of or sold under the name of another article.

In the case of drugs: 1, if, when retailed

for medicinal purposes under a name recognized in the Pharmacopœia, it be not equal in strength and purity to the standard laid down in that work; 2, if, when sold under a name not recognized in the Pharmacopœia, it differ materially from the standard laid down in approved works on materia medica or the professed standard under which it is sold.

It is, however, much easier to define an adulterated article than to detect it, and much easier to detect it than adequately to punish the offender or to guard against a recurrence of the deception. Only a very small proportion of those who are now daily imposed upon by unscrupulous dealers in innutritious food and inactive drugs would be pecuniarily able to support the expense of an analysis and a prosecution, and, if they were, they would have no guarantee whatever of safety in their dealings with the next retail grocer or druggist. The gravity of the evil is due to its extent and to the character of the articles concerned. We may in individual cases be but slightly affected by deterioration of food or drugs, but when we consider how many lives may depend on the power of an infusion or of a tincture, or, if in these days of therapeutical skepticism that be considered hypothetical, we contemplate the children whose physical future is contingent upon the character of the milk which is given them, the consumptives whose non-assimilation of fat has hastened if not caused their disease, and who depend largely upon butter for the supply of that fat, and then remember that we are practically at the mercy of those who sell these articles, we realize the importance of the subject and the necessity for protection.

The pecuniary value of the bread, butter, milk, and tea consumed yearly by the people of the United States runs up into the millions, and the profits derived from their manufacture and sale may easily be doubled by a little judicious admixture of foreign substances, with almost no risk of detec-

tion and with none whatever of punishment. The means which have from time to time been devised to enable the consumer to recognize the adulteration of these articles have all been ludicrously inadequate, and have demonstrated that every man can no more be his own chemist than he can be his own doctor. Take, for instance, the lactometer, an instrument which has been very largely used, and which has been relied upon as a conclusive test of the admixture of water with milk, but whose only real utility is to determine the weight of a given bulk of milk, which in itself is valueless knowledge. Pure milk consists of two portions,—skim milk, which is heavier than water, and cream, which is lighter than water. If pure milk be skimmed, a given bulk will weigh more; if water be added, a given bulk will weigh less; so that a proper combination of skimming and watering will leave the milk impoverished, but of the same specific gravity. The quality of butter, which is said to constitute the greatest proportion of the fat consumed by civilized people, is hardly second in importance to that of milk, and its adulteration is even more difficult of detection. Has the normal twelve or fifteen per cent. of water been increased to thirty or forty, and is the eighty-five per cent. of fatty matter derived from the cow or from the dripping-pan? When we imagine the possible substitution for the wholesome and clean-fingered dairy-maid of the peripatetic collector of soap-fat and offal, who daily offends our ears and nostrils, and when we consider, also, the alum in our bread, the creasote, glycerine, and benzine in our whiskey, the superaqueous and cretaceous character of our milk, the turmeric, graphite, catechu, and sand in our tea, and the hundred other similar deceits and impositions under which we suffer, we awaken to a realizing sense of the necessity for a public analyst. The adulteration of drugs is a practice so

fraught with evil both to patient and to physician, so obviously dangerous to the health of the former and to the professional success of the latter, that neither argument nor illustration is needed to demonstrate the necessity for some certain and effectual means for its prevention and punishment.

This means the bill under consideration is intended to supply. After defining the character and degrees of adulteration, it directs the appointment by the court in each county of a public analyst, whose duties shall consist in examining suspected articles and testifying before the court as to their condition. It also provides for the fine and imprisonment of the offender. It certainly merits hearty support and approval, and we hope soon to see it one of the laws of this commonwealth.

## PROCEEDINGS OF SOCIETIES.

### **PATHOLOGICAL SOCIETY OF PHILADELPHIA.**

THURSDAY EVENING, DECEMBER 3, 1877.

THE PRESIDENT, Dr. H. LENOX HODGE, in the chair.

*Excision of four inches of the upper part of the rectum in consequence of intussusception caused by a villous tumor.* Presented by Dr. M. O'HARA.

**I** WAS called, October 23, 1877, to Catherine Williams, 72 years of age, a native of Ireland, suffering from a hemorrhage from the bowels. She stated that, while defecating, a large mass was extruded suddenly from the anus, which bled very much, and which she could not replace; that three months previously it had appeared in the same manner with bleeding, but she was able to replace it; since that time she was subject to costiveness (easily relieved by the use of pulv. glycyrrhizæ comp.); she had losses of blood with her stools, but no protrusion since that time.

She had a cancerous family history,—a sister having died of cancer of the breast, and a brother having been affected with epithelial cancer of the nose.

On examination there was found a fungous, cauliflower-like mass hanging outside the anus, very red, with an apparent pedicle extending within the rectum, six inches long, and to the feel freely supplied with blood-vessels. On consultation with Dr. Willard, the growth was pronounced malignant and its

removal demanded. The tumor was three inches long, two and a half inches wide, and one inch in thickness, and was supposed to project from the anterior wall of the rectum, high up; the apparent pedicle was considered to be a portion of this wall dragged down by the weight of the tumor through the other portion of the rectum. Great difficulty was experienced in the diagnosis, as the tumor was large and obstructed the orifice of what was afterwards ascertained to be an intussuscepted portion of intestine, and not the ordinary pedicle of a tumor. The mass was soft, friable, bled freely, and had somewhat the feel of placental tissue. The lower part of the rectum seemed to be in a healthy condition as far as the finger could reach. With the finger you appeared to touch the point of attachment of the apparent pedicle on the anterior wall; behind, the attachment was not so distinctly felt.

The patient had no appearance of cachexy, or any signs other than of good health.

On the 24th of October, the tumor and portion of bowel (about four inches) presented to your notice were removed by the *écraseur*, and the cut edges of the intestine were brought down and tacked with sutures to the verge of the anus. There was no hemorrhage during or after the operation. The patient was given opium freely by mouth and rectum. During the first twelve hours she took as much as twelve grains, and afterwards a grain every three or four hours as needed to cause sleep and suspend the action of the bowels. Fluid nourishment was given freely. There was no sign of peritonitis, or even much febrile irritation, during the whole of the after-treatment.

October 26.—Flatus was passed freely, showing a complete thoroughfare. Pulse 100. Wakes up and takes nourishment.

27th.—Comfortable; takes nourishment; passes wind freely. The stitches were removed, and the gut permitted to ascend, which it did to about two inches.

29th.—Had a small, consistent, well-formed fecal evacuation; is doing well; pulse 82; slightly reduced in strength; some abdominal distention from flatus. Takes quinine, iron, etc., and opium is kept up regularly.

Nov. 1 and 2.—Doing well; daily normal evacuations.

6th.—Doing well; bowels regularly moved. Has appetite, and takes food regularly.

12th.—Ceased attendance. Upon examination this day the rectum was found capacious; the mucous membrane apparently soft and free from disease; no nodules or ulcerations; as high as the finger can reach, and with difficulty, was felt the orifice of the divided intestine, somewhat indurated, and surrounded with a ring of inflammatory deposit. The first finger could be carried with some difficulty into the opening.

Dec. 11.—The patient feels as well as before the operation; is going about her household



duties as before; sometimes a little costive and takes castor oil, but her bowels are generally moved naturally.

This case seems unique. I find in authorities no details of a similar case. Aitken, "Science and Art of Medicine," in his article on intussusception states that cases of intussusception in adults are rare,—so rare, that in the extensive experience of one of the largest civil hospitals in London (Guy's) Dr. Wilkes records that he has never seen but one case; and in this case the obstruction was never complete, and death did not occur for some weeks. In the Transactions of the Pathological Society of London for the first fifteen years of its existence, only seven cases are reported, no two occurring in the individual experience of any one man. In one case the symptoms continued for three months, ending in the passage of an invaginated portion of the ileum (containing a polypoid tumor) by the rectum, with recovery. Aitken says he never saw a case during life, or a post-mortem of one, in an adult. Five cases are reported in the Transactions of the Pathological Society of London, which were associated with polypoid tumors at or near the site of lesion. He gives twelve per cent. as the proportion of the colic invaginations. In this connection I would refer to a case of invagination of the descending colon, with autopsy, reported by Dr. G. W. Brown, of Port Carbon, page 729 of Transactions of the Pennsylvania State Medical Society for 1877. In this case, during life, the trouble was diagnosed scirrhus of the bowel. The symptoms of obstruction existed off and on for one year. The autopsy showed an invagination six inches long, caused by a tumor two inches long. The fæces had caught the tumor, drawing the bowel into itself. The inverted end of the intestine resembled the os uteri, with the large cap of the tumor outside, and the body entirely stopping up the opening, which was the immediate cause of the trouble. There had been frequent attacks of inflammation, fibrous bands had formed, and bound the parts together; this, with obstruction of the tumor to the passage of fæces, caused perforation, escape of the fæces into the peritoneum, peritonitis, and death. In my case similar results must have happened if the trouble had not occurred in a part within reach of surgical art. Similar cases should be thought of in the treatment of invagination by injections or forced insufflation (with bellows), which would only make the obstructing cause act more injuriously, increasing its stop-valve action. I find no record of a similar case to the one here reported, of recovery after surgical operation, though higher up in the bowel nature has sloughed off the invagination and tumor, with recovery.

I am indebted to Dr. Seiler for the following examination of the growth: "The piece of rectum sent to me presents, on section under the microscope, the appearance of hypertro-

phied villi, lined with columnar epithelium, and penetrating into the submucous tissue. The medullary substance of these villi appears to consist of only a few fibres of connective tissue."

Dr. WILLARD said, When this patient was first seen, the anus was found to be easily dilatable, and with the index and middle fingers the attachment of the mass to the anterior wall of the rectum could be readily felt, some four or five inches above the anus, this attachment being within reach on account of the relaxed condition of the tissues of the perineum. Posteriorly the connection with the bowel was not so distinct, a fact which is now easily explained, but at the time this circumstance, taken in connection with other appearances, caused me to believe that the tumor had its origin from the anterior wall.

The soft, fungous condition of the mass, its tendency to bleed, and the family history of the case, indicated that it was malignant in its character, and removal seemed to be the proper course to be pursued. Accordingly, the chain of an écraseur was passed around the apparent pedicle, and was caused to cut its way slowly through the tissues. No hemorrhage followed, but when the removed piece was examined it presented the puzzling appearance of being a tube four inches long, of the size of the large bowel, but, instead of the normal condition of being lined by mucous membrane, its inner wall was found to be serous, while the outside was mucous membrane. This is difficult of explanation except upon a model; and I have here a muslin tube which will represent the intestine, the different-colored sides indicating respectively serous and mucous membranes. When I invaginate a portion of the tube, and then cut it across, it will be seen that, counting the wall to consist of only two layers, serous and mucous, first is encountered a serous membrane, then a mucous membrane, then the same again, then peritoneum, then the same again, then mucous membrane, and the centre of the gut is reached. The other side will be the same. When cut across and removed, the incised peritoneum seems to present the appearance of a ring or cul-de-sac, but upon relieving the intussusception the appearance presented is the exact counterpart of the specimen under consideration. If any one of you will try this manoeuvre, you will see that it perfectly answers the requirements of the case.

Recognizing the fact that a complete excision of about four inches of the upper portion of the rectum had been made, two silk threads were passed through the upper portion, and the cut edges brought down and secured loosely to the verge of the anus, the intention being to hold the bowel in position until inflammatory adhesions should have glued it in a safe position. Here it was kept until the third day, when it was permitted to ascend about two or three inches, the threads acting as re-

liable guides and as preventives against too great recession. The anus was not freshened, as to have retained the cut end at this point permanently would have caused too great tension upon the bowel.

The happy result obtained was doubtless due to the condition of a small tube entering into and far underlapping a larger one, just as is sometimes seen in tin water-pipes. Had the rectum been allowed to become full during the first few days, or had diarrhœa supervened, overflow into the peritoneal cavity would doubtless have occurred. The opium, however, controlled everything nicely, and not a single bad symptom occurred during the progress of the case.

Dr. JOHN ASHHURST, Jr., asked at what distance from the anus the growth was supposed to have originated, and at what height the reflexion of bowel was found. From the history, as read, and from his inspection of the specimen, he was somewhat at a loss to know why the case was called one of intussusception, rather than one of prolapsus of the rectum, which, as was well known, might be produced by the straining efforts excited by the presence of a polypus or other tumor in that part of the bowel, just as intussusception might result from the presence of an intestinal tumor at a higher point. In cases of complete prolapsus, a deep sulcus could be felt all around the protruding portion of gut, deeper in the adult than in the child, on account of the greater thickness of the sphincters, and the anatomy of the affection was the same as that of invagination, though the latter name was ordinarily reserved for those cases which occurred at a higher point, such as the neighborhood of the ileo-cæcal valve.

Dr. ALLEN inferred, inasmuch as the specimen included a portion of the bowel with a complete investment of peritoneum, that the growth had arisen from the upper third of the rectum. This portion closely resembles the colon in its structure as well as in its morbid conditions. Intussusception would be likely to occur here, and not prolapsus. Prolapsus, indeed, would appear to be confined to the middle and lower thirds of the rectum. The initiation of prolapsus is the descent of the mucous membrane and the circular muscular layer away from both the longitudinal muscular layer and the fibrous layer which remains intact. This is the essential feature in the mechanism of prolapsus, no matter how the process may be complicated.

Dr. ASHHURST said that systematic writers distinguished between *partial* and *complete* prolapsus of the rectum, and that while Dr. Allen's description was correct as applied to the former variety, in which the protrusion involved only the mucous and submucous tissues, yet in the *complete* form of the affection, in both adult and child, all the coats of the bowel were implicated, and there was actually an invagination of the rectum through the anus.

Dr. MEARS asked if there was present in this case any displacement of the uterus. He thought that the condition found to exist in the rectum might have taken its origin in the constant pressure exerted by a posterior displacement of the uterus, a prolapse of the anterior wall of the bowel thus occurring. This condition of prolapse would be increased by the efforts made to evacuate the contents of the rectum, and eventually form such a tumor as is described to have existed in this case.

He believed that a like condition of prolapse might be occasioned as a result of the use of a large pessary, such as it is stated the patient had worn for a period of twenty years. He agreed with Dr. Ashhurst with regard to the proper designation of the condition, it being one of prolapse and not of intussusception.

*Pneumonia with unusual physical signs.* Presented by Dr. E. T. BRUEN.

Jos. F., æt. 41, was admitted to Philadelphia Hospital December 7, 1877. He stated that for two years previously he had suffered from catarrh in winter, but had never been obliged to relinquish his work in consequence of it. A week before his admission, he was taken sick suddenly with fever, with pain in the chest, and was obliged to go to bed. Two days after, he commenced to spit up some very offensive purulent matter.

Upon examination of his chest, dullness on percussion was found to exist over the entire right lung posteriorly, excepting over an area of about four inches below the spine of the scapula, and between the scapula and the vertebral spines. At this point the percussion was very tubular, even tympanitic, in character. Anteriorly there was dullness from the clavicle to the second rib, but below this the percussion was very tympanitic. Laterally there was dullness. The patient complained very much of soreness over the region of the tympanitic resonance. The respiratory murmur, though everywhere feeble, was bronchial, excepting over the area of tympanitic resonance, where it became very hollow, cavernous. Below the spine of the scapula, posteriorly there was well-marked pectoriloquy, elsewhere the resonance of the voice was diminished. The left lung was filled with moist râles, but otherwise nothing abnormal was noted. Temperature was 102° F., pulse 120, the patient much exhausted by exposure and want of food. Expectoration was profuse, especially in the morning and evening; at other times there was but little, and the odor was very offensive, so much so as to render the air around the bed disagreeable. There had been but little loss of flesh.

A diagnosis of pneumonia was made, but the existence of a vomica in the parenchyma of the lung, or else bronchial dilatation, was strongly suspected.

The patient died suddenly the next day (December 8). A post-mortem examination

was made twenty-four hours after death. The right side of the heart was found almost filled with ante-mortem clot. Its structure was healthy.

The right lung was in the stage of red hepatization, passing into gray hepatization. No cavity or bronchial dilatation was to be found. There was a small pleuritic effusion at base of right pleural cavity. The left lung was congested, but otherwise normal. Examination of other organs revealed nothing unusual.

I would call attention to the physical signs present, because I have from time to time seen similar cases. The explanation given by some is that when consolidation is very complete we obtain tympanitic resonance from the vibration of air in the bronchial tubes.

In this case, the history of previous bronchitis, the location of tympanitic percussion, and the offensive character of the sputa, made me suspect bronchial dilatation, or a vomica. The history of these cases and the general symptoms are probably our safest guides to the correct interpretation of the physical signs.

*Cancerous heart (?) with dilated right ventricle; sudden death, with symptoms of angina pectoris.* By Dr. T. D. INGRAM.

The specimen I have to present this evening I believe to be one of cancer of the heart. It is from a patient dying suddenly with symptoms of angina pectoris,—Charles K., a German, aged 32 years, a spice-grinder, and a man of temperate habits. Though having a rather irritable disposition naturally, this I believe was possibly increased, as I learned that the man frequently complained of pain in the chest, over the region of the heart. His wife told me that for a long time he could sleep with comfort only while lying upon the right side.

The man frequently suffered from a slight cough, which he attributed to the dust from the mill, which was at times very irritating. He was regarded, however, by his fellow-workmen as somewhat of an athlete, being of a strong, muscular build.

In the early part of November I was called to see the man, thought to be dying in a paroxysm. I found him in bed, slightly propped up with pillows, and breathing with exceeding rapidity. There was no apparent dyspnoea or difficulty in the act, except that it was of a short, shallow, quick or panting character, too rapid to be counted. There was no lividity of the face: indeed, it was rather pale; and the hands were also quite cool.

His expression was one of great anxiety, and when spoken to, or questioned, he answered hurriedly and in monosyllables, in keeping with his manner of breathing. In this he quite persisted; but when told to breathe slowly he could do so without difficulty for a while, but would again soon relapse into the same shallow or panting breaths.

The pulsations at the wrist were very weak and rapid. On examination of the heart, I

found its action irregular, exceedingly rapid, and feeble. An examination showed the pupils to be quite sensitive to light; and indeed, as the mind was entirely clear, and the breathing not absolutely embarrassed, any serious disturbance of the prominent vital functions seemed limited to the heart.

His wife told me they had retired as usual, and that she was awakened by his peculiar panting respirations. He then complained of intense pain in his breast and left side,—a sense of suffocation, or rather that an increase of the pain would ensue with a deeper breath. There seemed, indeed, to have been no exciting cause. Thus I found him at about two o'clock in the morning, and, as he complained of excessive pain, at once I injected a full quarter-grain of morphia under the skin of the arm. I requested him to breathe more slowly, as I deemed that his symptoms were being aggravated by the shallow respirations. I then found that the breathing gradually became slower and deeper.

The heart's action was still exceedingly weak, and I sent for tinct. digitalis; of this I gave at once a half-teaspoonful dose, and repeated it in less than an hour, as I found the pulse to be gaining in strength and becoming slower. After giving the second dose, the strength of the pulse improved greatly, and the respiration became much more natural.

Leaving directions to continue the digitalis, ten drops every two hours, and a quarter of a grain of morphia to be given by the mouth if the patient did not sleep, I returned home, having spent about two hours with the man, promising to return again at 5.30 A.M. When I called at the house in the morning, I found it closed; and, as the lights were out, I presumed my patient was asleep, and left.

Being called out of town, I did not see him until the following day, when I found him about and enjoying his usual health. On examining the heart, I could discover no murmur, nor any irregularity, except a somewhat excited and peculiarly muffled action.

I now prescribed a large belladonna plaster, 6 by 6, and bade him wear it continuously, and tinct. digitalis ten drops three times a day. He called on me a week afterwards, complaining of a cough, which he referred, as before, to the irritating dust of his employment. I again examined the heart, and, as before, found no decided murmur, but, as I well remember, a peculiar muffled quality of its sounds.

I was next called hurriedly to see him on the evening of the 27th of November, three weeks after the former attack, the messenger saying he was dying in a spell. When I reached him, he was indeed dead, sitting in a chair, with his head and arms hanging over the back, presenting a most ghastly picture. He had been at his usual work during the day, but complained in the evening of pain in his chest. Rather later than usual, however, he ate quite a hearty meal. Later in the evening

he was engaged with some friends playing at cards. At the end of the game he asked for something to drink, as he was thirsty and felt the pain again in his chest; but, before the drink could be handed to him, he had got up, and was staggering, saying that everything looked black to him. The attendants assisted him to an outer room and placed him in a chair, whence he had been moved to another chair within the house, all occupying less than five minutes, when I found him dead.

The post-mortem was made thirty-six hours after death. We found the left lung adherent throughout to the chest-wall and diaphragm; the right lung was adherent above, but not to the diaphragm; it was slightly adherent to the pericardium.

The lungs were darkly congested posteriorly, less marked in front. They contained much dark frothy blood, but were everywhere crepitant, with no evidence of solidification or of other masses.

Within the pericardium there was about an ounce of yellowish and slightly-turbid fluid. The pericardium was nowhere roughened or adherent to the heart.

The heart was evidently enlarged, more especially in its width, by the right ventricle having a full rounded border. Closer examination showed the under or posterior surface of this enlarged ventricle, near the apex, to be deeply injected, or of a sort of mottled redness. When felt, it offered a marked resistance, or the sense of some infiltrated substance giving it much greater firmness than the remaining tissue.

On opening the right cavities we found several tuberos projections,—the largest about the size of an ordinary chestnut,—occupying a position on the ventricular septum near the auriculo-ventricular orifice, and binding down the smaller leaflet of the tricuspid valve. Other though somewhat smaller projections were scattered throughout the ventricular cavity, springing from both the septum and the outer ventricular wall. They were seated, apparently, immediately beneath the endocardial membrane. Much more marked, however, were the growths near the apex,—where they appear on the inside as elevated masses, and besides seem to be infiltrated throughout the muscular structure, reaching the outer or pericardial surface, as before described.

The cavity of the ventricle was markedly dilated, and its remaining walls thinned. The valvular leaflets at both orifices were otherwise healthy, though possibly insufficient from the dilated condition of the ventricle and auricle, as well as of the root of the pulmonary artery.

On opening the left ventricle the muscular wall seemed somewhat softened, and its cavity to be slightly dilated. The valves at both orifices were healthy and quite sufficient. Microscopical examination of the muscular

fibres of the left ventricle showed very plainly the normal transverse markings, though in some fibres there were scattered small granulations, indicative of slight degeneration.

No careful examination of the abdominal viscera was made. The liver and stomach were observed in place, and were apparently normal. As no symptoms referring to them were observed during life, and not supposing cancer, we neglected to examine them, as well as other points more frequently the seat of such primary diseases.

I may add, here, that no history of hereditary cancer could be obtained, nor is there any evidence of a possible syphilitic taint, to which these new growths might be referred.

I may be permitted to add the symptoms of another case of angina pectoris, which I have seen since the one just described, in a man presenting himself at the Jefferson College clinic. This man, also only 32 years of age, complains of paroxysmal attacks of pain in his chest, about the region of the heart, and extending to either side. He also feels the pain in his arms and hands, where he frequently has it relieved by rubbing. Active rubbing he says will also relieve the pain in his chest.

In this case, I found no difficulty in discovering a quite sufficient lesion of the heart. For, upon examination there is very evident enlargement of the organ, the apex reaching a point considerably without the left nipple, and upon auscultation there is a short systolic aortic murmur, followed by a loud harsh murmur at the same orifice.

The heart, although apparently beating strongly, gives but a feeble as well as a receding pulse. From the lesion of the valves, there is aortic regurgitation, and consequent dilatation of the left ventricle; this has not been followed by compensating hypertrophy.

To these notes I trust I may still be permitted to add some others, that I have quoted with reference to the history of cancer of the heart. In a short reference to the disease in an article in Ziemssen's *Cyclopædia of Medicine*, carcinoma is said to be the most frequent of the new growths of the heart, though a disease quite rare in itself. In 17,407 autopsies collected by two observers, cancer of the heart is said to have been found in only twelve cases. Again, in 4547 autopsies, of which 477 were cases of carcinomatous disease, cancer of the heart occurred nine times, and cancer of the pericardium seven times.

Cancer of the heart is much more frequently a secondary than a primary affection. Primary cancer of the heart may occur, and is generally of the colloid or melanotic form. Only one case of epithelial cancer of the heart is noted, and that by Paget.

I quote also from an article on the subject in Reynolds's *System of Medicine*, where it is stated that out of forty-five cases of cancer



of the heart only *two* were definitely of a primary character, and in these the disease existed in only a part of the organ; though in seven other cases no mention was made of its existence elsewhere than in the heart.

Still quoting from Reynolds, "the most frequent location of the disease seems to be in the right ventricle or auricle, though it may occur in other parts."

The deposit may either assume the form of distinct tubera, of various sizes, seated either beneath the pericardium, or more rarely beneath the endocardium, or it may be found infiltrated within the tissue of the walls or septa,—the latter rare.

Still further from Reynolds I have noted that many observers have been led to believe that a majority of cases of angina pectoris were due to some obstruction or disease of the coronary arteries, with consequent faulty nourishment of the heart, leading to its dilatation. One observer found the statistics of this condition in twenty-one out of thirty-six fatal cases; another found that in twenty-four out of forty-five cases there was degeneration or disease of the aorta, reaching the valves or extending to the coronary arteries. In ten cases there was positive disease, and in twelve other cases there was preternatural softness of the tissues of the heart itself.

Many authors and observers, including Trousseau, have noted the symptoms of angina pectoris, in a more or less characteristic degree, associated with thoracic aneurisms, especially those arising from the ascending part of the arch, near to or pressing on the heart itself.

In regard to the determination of how far any organic disease, and what special kind of organic disease, may have had to do with the symptoms of angina pectoris, I again quote from the article in Reynolds: "It is indeed at times very difficult; for, in the first place, organic disease may exist, without the possibility of its discovery, and, secondly, they are precisely the forms of organic disease most difficult of discovery that have been shown to be most frequently associated with deaths from angina pectoris."

The author says emphatically, though, that where the symptoms are less urgent, or in cases where the paroxysms become more frequently repeated, if the lesion can be distinctly made out by a careful examination, then the diagnosis becomes of the greatest importance, both to the physician and to the patient, in regard to prognosis and treatment during the intervals.

*Report of the Committee on Morbid Growths.*

—"A microscopic examination of the new formation developed in the walls of the heart presented by Dr. Ingram demonstrates it to consist of lymphoid cells, spindle-shaped cells, and cells characterized by large granular round or oval nuclei, surrounded by a granular substance, suggesting very much the appearance of epithelial cells. There is a vis-

ible attempt to the formation of alveolar spaces by fibrillar connective tissue; but we also find between the cells a fibrillar intercellular substance. These elements, and their arrangement, give, in our opinion, the characteristics of a sarcoma,—variety alveolar. Muscular fibres in a state of granular degeneration, and undergoing inflammatory action, are seen in connection with the new formation.

"January 10, 1878."

*Cancer of the œsophagus.* Presented by Dr.

JOHN GUITÉRAS.

Though I did not have an opportunity to study carefully during life the patient from whom the specimen was removed, yet there are some points about it that may be of interest. She was an old woman, presenting considerable cachexia. She had had difficulty in swallowing for several months. There was no history of cancer in the family. I saw her once in the wards of my colleague Dr. Wood. She vomited all solid food, and there was constant gurgling in the larynx. She was so frail, and was so much disturbed by the attempt to pass an œsophageal bougie, that the resident physician was obliged to give it up. There was some obstruction in the air-passages. Auscultation proved it to be mainly seated in the left bronchus. The cachexia, the persistent dysphagia, which was primary to and much more marked than the dyspnoea, and the absence of signs of atheroma and aneurism, were the symptoms pointing to cancer of the œsophagus. Besides, my attention has been called by Dr. Allen to the frequency with which cancer develops in the œsophagus opposite the bifurcation of the trachea. In the complete cartilaginous ring at this point he finds a source of irritation to the tissues of the œsophagus. The slight inclination of the œsophagus to the left explained the greater obstruction in the left bronchus. The specimen now before the Society shows very well how this pressure was brought about. Besides this anatomical relation, it will be seen that the tumor has attained its greatest size in the left wall of the œsophagus.

## REVIEWS AND BOOK NOTICES.

SPINAL DISEASE AND SPINAL CURVATURE: THEIR TREATMENT BY SUSPENSION AND THE USE OF THE PLASTER-OF-PARIS BANDAGE. By LEWIS A. SAYRE, M.D., etc. London, Smith, Elder & Co.; Philadelphia, J. B. Lippincott & Co., 1878, pp. 121.

The plan of suspending the body by the head and shoulders, and the application of a plaster-of-Paris fixed dressing to the trunk, in Pott's disease and spinal curvature, while not original with Dr. Sayre, has been elaborated by him, and made widely known. With the indomitable perseverance and en-

thusiasm so characteristic of the writer, the treatment has been employed by him in three hundred cases since its first employment in 1874. It appears to answer admirably the purpose for which it is proposed, and has greatly increased the fame of Dr. Sayre and carried hope into the lives of many wretched sufferers. It is not the object of this notice to describe a method which has already attracted the attention of every reader of current literature. The treatment should be mastered by every physician. As Dr. Sayre insists, "The patient, by the system detailed, is able to remain under the sole care of him who is best fitted to apply remedial means, namely, the properly educated and general practitioner. Every medical man can treat these cases himself, with perfect success, in any part of the country, thus saving the patient the pain and expense of travelling long journeys to some specialist or institution devoted particularly to this class of deformities."

The work is copiously illustrated with photographs and wood-cuts, and presents a handsome appearance. It is with reluctance that we mention what in our judgment is a breach of good taste, viz., the frequent occurrence of the full-length portraits of Dr. Sayre and his assistants in the photographs accompanying some of the cases. These figures add little or nothing to the value of the photographs, nor do they serve to illustrate in any other way a work so creditable. We think their introduction was a mistake.

H. A.

**DISEASES OF THE NASAL CAVITY AND THE VAULT OF THE PHARYNX.** From the German of CARL MICHEL, Cologne. With an Introduction by E. L. SHURLY, M.D., and C. C. YEMANS, M.D. Detroit, C. Jung, 1877, pp. 109.

This pamphlet—in itself a valuable contribution to the subject of which it treats—is vily translated. The translation, from all appearances, is the work of a non-professional person subsequently revised by a medical writer ignorant of German. Some portions read like travesties, others contain German words in parenthesis (the words themselves, while technical, being simple), and break into the construction of sentences in an annoying manner. With respect to the author's special features of treatment, we would mention the use of the galvano-cautery in chronic nasal catarrh. Some extraordinary statements are made respecting the efficacy of this method, which if borne out by subsequent experience will be a decided improvement in the treatment of this obstinate affection. It must be confessed, however, that the arguments presented in its defence are indifferent, and the important fact is withheld, that the catarrhal element in this class of affections is always a symptom demanding for its correction something more than a single inflexible method of cure. While the galvano-cautery may be

adapted in some cases, in others it would certainly prove incompetent, if not mischievous. Judging from what we have observed of the dimensions of the nasal chambers, it would be exceedingly difficult to apply the cautery in this country after the manner recommended. The book, however, shows careful work in many directions, and, in spite of the uninviting medium through which it is presented, will repay perusal. The labor of the American editors in their "Introduction" is confined to a half-page of unimportant matter.

H. A.

**LANDMARKS, MEDICAL AND SURGICAL.** By LUTHER HOLDEN. Second English Edition. Philadelphia, H. C. Lea, 1878, pp. 128, 12mo.

The second edition of this little volume contains essentially the same matter as is contained in the first. The form is changed from an octavo to a duodecimo, and presents an attractive appearance. The object of the author has been to collect the leading landmarks (an indefinite term, we think, but sufficing well enough) which help practical surgeons in their daily work. It has certainly been satisfactorily attained. The qualifications for writing such a book are rarely seen combined in one person. Mr. Holden is at once a good anatomist and a good clinical observer. He has taken the method of study initiated in the laboratory and engrafted it upon the complex conditions of clinical research.

H. A.

**A MANUAL OF NURSING.** New York, G. P. Putnam's Sons, 1878.

Dr. Victoria White, who compiled this manual for the Training-School for Nurses attached to Bellevue Hospital, has succeeded in making an excellent book. We have but one criticism to offer: there seems to be a tendency sometimes to assign to the nurse functions which belong purely to the physician. Thus, in speaking of eruptive fevers, directions are given as to the proper use of sponging, applications to the surface, etc. The nurse should, of course, know how to make these; but we think many would be led spontaneously to make them by the teaching of this manual, whereas these are most important matters, to be decided solely by the physician.

## GLEANINGS FROM EXCHANGES.

**INTRAVENOUS INJECTIONS OF AMMONIA IN A CASE OF COLLAPSE** (*The Medical Record*, December 29, 1877).—Mr. Fitzgerald reports a case in which he employed intravenous injections of ammonia with success, at a time when death was imminent from collapse. The patient had suffered for a long time from profuse suppuration. When first seen by Mr.

Fitzgerald, he was almost dead; he had no pulse at the wrist, and his respiration was imperceptible. Thirty drops of a solution of equal parts of aqua ammoniæ fortior and water were at once injected into a vein. The injection was followed by violent convulsions, but these soon passed off, and the patient was able to sit up in bed and talk rationally. These good effects persisted for eight hours, but the signs of collapse then reappeared. A second injection was practised, but the greater quantity of it passed into the cellular tissue, and no marked effect was produced. A third injection was more successful. The convulsive movements were more violent than after the first operation, but the effects were more satisfactory, for the alarming symptoms did not again return. The patient subsequently recovered completely. The ammonia that escaped into the cellular tissue produced a large eschar. With a little care this unpleasant result might have been avoided. It is thought that the intravenous injections of ammonia deserve to be tried in other cases of collapse, and especially in cases of impending death from chloroform-poisoning.

THE USE OF THE ACTUAL CAUTERY (*New York Medical Journal*, February, 1878).—In an article on paralysis in Pott's disease of the spine, Dr. Poore gives the following directions for the use of the actual cautery. 1. The iron should be olive-pointed, and perfectly smooth; there must be no thin scales of oxidized metal on it, otherwise it will scratch the skin and make a sore. Use an iron with a platinum cap spun on; it always has a smooth surface, and does not oxidize. 2. The iron must be raised to a white heat; a lower temperature always gives pain, and makes a sore. 3. In children, always chill with ice the parts to be cauterized, and wipe the skin perfectly dry before applying the iron. 4. The iron must be simply brushed over the skin, so that after the operation there is only a whitish line to be seen.

WOUNDS OF THE LARYNX, AND THEIR TREATMENT (*New York Medical Journal*, February, 1878).—Dr. Lefferts, in his Report on Laryngology, gives the following conclusions drawn by Witte from statistics as recorded in the surgical histories of the recent wars.

1. That laceration of the larynx and trachea is very rare,—in battle only five in ten thousand wounds of all classes; in private practice they are more frequent; in the former class almost exclusively by fire-arms; in the latter by cutting instruments.

2. The diagnosis is usually easy; a pathognomonic symptom of a penetrating wound of the air-passages is the escape of air through the opening.

3. The progress is always slow; in extensive lacerations repair is not to be expected under thirty to forty days; not unfrequently alterations in the voice, stenosis of the larynx

(very seldom of the trachea), and aerial fistula are ultimate results.

4. The prognosis in incised wounds of the larynx and trachea, with extensive laceration of the soft parts, is much better than in those with but slight laceration, and in punctured wounds. Gunshot-wounds of the larynx appear to allow of a better prognosis than those of the trachea, but in both instances more than one-half of all cases are cured.

5. Severe concussions, contusions with marked disturbance of the voice and respiration, and fractures of the cartilages, are indications for a prophylactic tracheotomy.

6. It is likewise indicated where foreign bodies are lodged in the larynx or trachea.

7. Gunshot-wounds of the larynx and trachea together, punctured wounds in which the laceration of the mucous membrane is probable, incised wounds, with slight involvement of the soft parts, but marked injury to the cartilages, all render the performance of a tracheotomy necessary.

8. In incised wounds with free division of the soft parts, and simple lacerations of the trachea, the operation may be delayed, provided the case can be carefully watched and it is not necessary to transport it further.

9. Incised wounds of hyo-thyroid membrane may be sewed up after a tracheotomy has been done.

10. In incised wounds of the upper part of the thyroid cartilage, after a tracheotomy, sutures may be used through the cartilage.

11. Gunshot-wounds of the parts in the neighborhood of the larynx, with marked destruction of tissue, indicate a prophylactic tracheotomy:

(a.) When interference with either speech or respiration begins to manifest itself.

(b.) When secondary hemorrhage is feared, and the blood can find its way into the air-passages.

(c.) When the projectile lies in the vicinity of the larynx, and it is deemed undesirable to remove it.

12. A high tracheotomy is always to be preferred; then section of the cricoid cartilage; if necessary, a low tracheotomy can be done. The earlier the operation is performed, the less will be the difficulty, and the better the prognosis.

13. When circumstances permit, the operation is to be performed under chloroform.

14. Catheterization of the larynx, as well as compression and scarification, is to be practised in œdema of the glottis.

15. For a time after the operation, Trendelenburg's tampon canula is to be worn, and two at least should be furnished in the armamentarium of every sanitary department and field-hospital.

IODOFORM IN THE TREATMENT OF ORCHITIS.—Dr. Julian Alvarez recommended some time ago, in *La Independencia Médica*, iodoform in blennorrhagic orchitis as superior

to belladonna, cicutine, opium, or other alkaloïds. An ointment containing one to two parts of iodoform to thirty of the vaseline would be a suitable form.—*The Doctor.*

### MISCELLANY.

**PUBLIC ANALYSTS.**—The following editorial paragraph from the London *Lancet* of January 26 indicates the feeling of that journal, and consequently of the profession in England, on the subject to which we have called attention in this issue:

"Faversham has distinguished itself by refusing to appoint a public analyst. It is strange that local corporations should court notoriety by declining to discharge a known duty. There ought to be some penalty imposed upon refractory communities who persist in evading the law. Their indulgence in self-will is not a noble pastime, and it has a demoralizing effect on the population at large. There is too much permissive legislation just now, and these exploits of local folly, pitiful as they may seem, not only make the right of self-government ridiculous, but go far to show that the legislature has been ill advised in trusting to the spirit of local enterprise, which it is so much the fashion to plead as a reason why as much as possible should be left to local effort. Possibly the sage councillors of Faversham may think better of their petty resistance to the impulse of common sense. We trust, for the credit of an otherwise enterprising borough, this may prove to be the case; but the public lesson to be learned from the episode is that the shortest and best way to insure the carrying out of a good law is to make its adoption compulsory, and not to count on more public spirit in a community than may suffice to make it do what must be done with as little local extravagance as possible, and as much success as can be secured at the smallest outlay."

At the annual meeting of the Board of Trustees of the Pennsylvania Eye and Ear Infirmary the surgeon in charge presented the medical report of the working of the dispensary during the seventeen months of its existence, from August, 1876, to December 31, 1877.

During this time there have been gratuitously treated in the dispensary 1541 patients, of which number 1083 were for eye diseases, and 458 for ear diseases, with 1721 cases of disease.

The number of important operations performed in the institute were 94; of minor operations, 156.

The Board of Trustees adopted the resolution changing the name of the institute, to be hereafter known as the German Eye and Ear Infirmary.

The dispensary is located at 441 North Fifth

Street, and is open for the gratuitous treatment of the poor, daily, from half-past one to three o'clock P.M.

The officers of the infirmary are Ch. H. Meyer, L. Westergaard, Dr. J. Aitken Meigs, Dr. J. Koerper, Dr. H. Tiedeman, Prof. John M. Maish, etc.

Surgeon in charge, Dr. M. Landesberg.

THE deaths of the celebrated French physicists M. Becquerel and M. Regnault are announced, also of the physician M. Barth.

DR. L. P. YANDELL, SR., died, February 4, at his residence, in Louisville, Kentucky, in the seventy-fifth year of his age. At one time in his life Dr. Yandell acted as a Presbyterian clergyman; but almost all his active years were devoted to medical practice and journalism. He was one of the best-known of the physicians of the Mississippi Valley.

DR. DAVID M. YOUNG strongly recommends a teaspoonful of glycerine taken night and morning as a remedy for internal piles.

### NOTES AND QUERIES.

#### TRANSMISSION OF DISEASE.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

A most remarkable and interesting case of transmission of diseased condition from the parent to the child may be found, I think, in the following case from my note-book, which I present without comment.

Child, 2 months and 5 days old,—father in the last stages of consumption, and death expected daily,—was taken, October 5, 1877, with difficult breathing and cough. Examination showed congestion and bronchial breathing over both lungs. Large moist râles supervened on the third day, with hemorrhage of pure bright blood from the lungs and all the mucous surfaces, stomach, bowels, nose, and ears, and death occurred on the 9th, four days following the attack, from asthenia. The child was cachectic from birth.

Very truly,

S. J. RADCLIFFE, M.D.

WASHINGTON, D.C., February 12, 1878.

### OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM FEBRUARY 10 TO FEBRUARY 23, 1878.

WATERS, W. E., CAPTAIN AND ASSISTANT-SURGEON.—In addition to his present duties, to examine recruits and attend the artillery command in camp near this city (San Antonio). S. O. 33, Department of Texas, February 12, 1878.

WINNE, C. K., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month on Surgeon's certificate of disability, with permission to leave the Department and apply for one month's extension. S. O. 14, Department of the Platte, February 13, 1878.

TURRILL, H. S., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To accompany recruits from San Antonio to Fort Clark, Texas, and, on arrival, to report to the Commanding Officer of that post for duty. S. O. 31, Department of Texas, February 9, 1878.

BARNETT, R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from temporary duty at Little Rock Barracks, Arkansas, to proceed to Lake Charles, Calcasieu Parish, Louisiana, and resume his duties as Post-Surgeon. S. O. 22, Department of the Gulf, February 12, 1878.